## WEST

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L5: Entry 28 of 49

File: JPAB

Jan 25, 2002

PUB-NO: JP02002026389A

DOCUMENT-IDENTIFIER: JP 2002026389 A

TITLE: METHOD FOR MANUFACTURING P-TYPE GALLIUM NITRIDE COMPOUND SEMICONDUCTOR, METHOD FOR MANUFACTURING GALLIUM NITRIDE COMPOUND SEMICONDUCTOR LIGHT EMITTING ELEMENT AND GALLIUM NITRIDE COMPOUND SEMICONDUCTOR LIGHT EMITTING ELEMENT

PUBN-DATE: January 25, 2002

INVENTOR - INFORMATION:

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MIKI, HISAYUKI OKUYAMA, MINEO OSHIMA, MASAHARU FUJIOKA, HIROSHI WAKI, ICHITARO

ASSIGNEE-INFORMATION:

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SHOWA DENKO KK

APPL-NO: JP2000207701 APPL-DATE: July 10, 2000

INT-CL (IPC): H01 L 33/00; C23 C 16/34; H01 L 21/205; H01 L 21/324

## ABSTRACT:

PROBLEM TO BE SOLVED: To enable p-type conduction without deterioration of a crystal of a light emitting layer and without contamination at a low cost and realize a good ohmic contact with an electrode.

SOLUTION: A method for manufacturing a p-type gallium nitride compound semiconductor comprises a first step of manufacturing a gallium nitride compound semiconductor layer 3 in which a p-type impurity is added, a second step of manufacturing a catalytic layer 7 made of a metal or the like on the layer 3, and a third step of heat treating the layer 3 in a state in which the layer 7 is attached.

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L5: Entry 32 of 49

File: JPAB

Oct 8, 1999

PUB-NO: JP411274567A

DOCUMENT-IDENTIFIER: JP 11274567 A

TITLE: METHOD FOR FORMING ELECTRODE OF SEMICONDUCTOR ELEMENT

PUBN-DATE: October 8, 1999

INVENTOR - INFORMATION:

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MIKI, HISAYUKI FUKIZAWA, AKIRA OKUYAMA, MINEO OSHIMA, MASAHARU FUJIOKA, HIROSHI ONO, KANTA

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SHOWA DENKO KK

APPL-NO: JP10079681

APPL-DATE: March 26, 1998

INT-CL (IPC): H01  $\pm 33/00$ 

## ABSTRACT:

PROBLEM TO BE SOLVED: To control the Ohmic contact of electrodes to a semiconductor by forming a protection layer of at least an element selected from a group of P, As, Sb, S and Se on the surface of a GaN compound semiconductor and laminating an electrode material on the protection layer to form electrodes.

SOLUTION: On a p-type  $\underline{\text{GaN}}$  substrate grown by the MOCVD method, an As protection layer is formed in an  $\underline{\text{MBE}}$  apparatus different from the one used for this growth, Pd electrodes are formed on the protection layer, and a pattern of pairs of planar electrodes 13 and dot electrodes 14 for measuring the current-voltage characteristic of the contact between the electrode and semiconductor is formed in a sample with the As protection layer. The current- voltage characteristic measured between the electrodes can be regarded as a contact characteristic of the dot electrode 14, resulting in that the current- voltage characteristic 12 shows an Ohmic property.

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## **WEST Search History**

DATE: Monday, June 09, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB = USPT, PGPB, JPAB, EPAB, DWPI, TDBD; PLUR = YES; OP = OR			
L9	17 and 18	2	L9
L8	p-gan	398	L8
L7	l4 and l6	675	L7
L6	catalys\$4	684263	L6
L5	13 and 14	49	L5
L4	(gallium adj nitride)or gan	14485	L4
L3	okuyama.inv.	9392	L3
L2	20020175341	2	L2
L1	20020175341	2	L1

END OF SEARCH HISTORY